

AMENDMENTS TO THE CLAIMS

Claims 1-8 (Cancelled)

Claim 9 (Currently Amended) A visual processing device comprising:

a parameter outputter for determining an adjustment parameter according to ambient light and for outputting the adjustment parameter;

a spatial processor for spatially processing a plurality of pixels surrounding a target pixel of an input image signal, so as to generate and output a processed signal based on the spatially processed plurality of pixels surrounding the target pixel of the input image signal; and

a visual processor for receiving the input image signal, the processed signal and the adjustment parameter, for determining a conversion characteristic according to the processed signal, for adjusting the determined conversion characteristic to an adjusted conversion characteristic according to the adjustment parameter, and for converting the target pixel of the input image signal according to the adjusted conversion characteristic, so as to output an output converted signal, the visual processing device including a hardware processor,

wherein the visual processor determines the conversion characteristic, such that, with respect to a specific brightness of the input image signal and as the brightness of the processed signal increases, a value of the output converted signal decreases, and

wherein the visual processor adjusts the determined conversion characteristic, such that, according to the adjustment parameter, as a brightness of the ambient light increases, at least one of a brightness and a local contrast of the output converted signal increases.

Claim 10 (Cancelled)

Claim 11 (Cancelled)

Claim 12 (Previously Presented) The visual processing device according to claim 9, wherein the output converted signal is generated by enhancing a brightness of the input image signal based on a contrast between the processed signal and the input image signal, and increasing a degree of the enhancement of the brightness of the input image signal as the brightness of the ambient light increases, such that the degree of the enhancement of the brightness is based on the adjustment parameter.

Claims 13-16 (Cancelled)

Claim 17 (Previously Presented) The visual processing device according to claim 9, wherein the visual processor has a processing characteristic, such that with respect to the specific brightness of the input image signal, when a value of the processed signal is fixed to a predetermined level, the output converted signal becomes larger in value according to a downwardly convex curve, such that a degree of the downwardly convex curve decreases as the brightness of the ambient light increases, so that the degree of the downwardly convex curve is based on the adjustment parameter.

Claims 18-20 (Cancelled)

Claim 21 (Currently Amended) An image display device comprising:

a parameter outputter for determining an adjustment parameter according to ambient light and for outputting the adjustment parameter;

a transformation portion including:

a spatial processor for spatially processing a plurality of pixels surrounding a target pixel of an input image signal, so as to generate and output a processed signal based on the spatially processed plurality of pixels surrounding the target pixel of the input image signal; and

a visual processor for receiving the input image signal, the processed signal and the adjustment parameter, for determining a conversion characteristic according to the processed signal, for adjusting the determined conversion characteristic to an adjusted conversion characteristic according to the adjustment parameter, and for converting the target pixel of the input image signal according to the adjusted conversion characteristic, so as to output an output converted signal; and

a display unit operable to display the output converted signal,

wherein the visual processor determines the conversion characteristic, such that, with respect to a specific brightness of the input image signal and as the brightness of the processed signal increases, a value of the output converted signal decreases, and

wherein the visual processor adjusts the determined conversion characteristic, such that, according to the adjustment parameter, as a brightness of the ambient light increases, at least one of a brightness and a local contrast of the output converted signal increases.

Claim 22 (Previously Presented) The image display device according to claim 21, wherein the parameter outputter comprises a brightness detection unit operable to detect a brightness of a display environment of the display unit, and output the adjustment parameter in

accordance with the brightness of the display environment detected by the brightness detection unit.

Claim 23 (Currently Amended) A visual processing method comprising:

determining an adjustment parameter according to ambient light;

spatially processing a plurality of pixels surrounding a target pixel of an input image signal to obtain a processed signal based on the spatially processed plurality of pixels surrounding the target pixel of the input image signal; and

performing visual processing, via a hardware processor, by receiving the input image signal, the processed signal and the adjustment parameter, by determining a conversion characteristic according to the processed signal, by adjusting the determined conversion characteristic to an adjusted conversion characteristic according to the adjustment parameter, and by converting the target pixel of the input image signal according to the adjusted conversion characteristic, so as to output an output converted signal,

wherein the performing of the visual processing determines the conversion characteristic, such that, with respect to a specific brightness of the input image signal and as the brightness of the processed signal increases, a value of the output converted signal decreases, and

wherein the performing of the visual processing adjusts the determined conversion characteristic, such that, according to the adjustment parameter, as a brightness of the ambient light increases, at least one of a brightness and a local contrast of the output converted signal increases.

Claim 24 (Currently Amended) A processor used for an image output device, the processor executing a processes of:

determining an adjustment parameter according to ambient light;

spatially processing a plurality of pixels surrounding a target pixel of an input image signal to obtain a processed signal based on the spatially processed plurality of pixels surrounding the target pixel of the input image signal; and

performing visual processing by receiving the input image signal, the processed signal and the adjustment parameter, by determining a conversion characteristic according to the processed signal, by adjusting the determined conversion characteristic to an adjusted conversion characteristic according to the adjustment parameter, and by converting the target pixel of the input image signal according to the adjusted conversion characteristic, so as to output an output converted signal,

wherein the performing of the visual processing determines the conversion characteristic, such that, with respect to a specific brightness of the input image signal and as the brightness of the processed signal increases, a value of the output converted signal decreases, and

wherein the performing of the visual processing adjusts the determined conversion characteristic, such that, according to the adjustment parameter, as a brightness of the ambient light increases, at least one of a brightness and a local contrast of the output converted signal increases.

Claim 25 (Currently Amended) A non-transitory computer-readable recording medium having an image processing program recorded thereon, the image processing program causing a computer to execute a visual processing method comprising:

determining an adjustment parameter according to ambient light;

spatially processing a plurality of pixels surrounding a target pixel of an input image signal to obtain a processed signal based on the spatially processed plurality of pixels surrounding the target pixel of the input image signal; and

performing visual processing by receiving the input image signal, the processed signal and the adjustment parameter, by determining a conversion characteristic according to the processed signal, by adjusting the determined conversion characteristic to an adjusted conversion characteristic according to the adjustment parameter, and by converting the target pixel of the input image signal according to the adjusted conversion characteristic, so as to output an output converted signal,

wherein the performing of the visual processing determines the conversion characteristic, such that, with respect to a specific brightness of the input image signal and as the brightness of the processed signal increases, a value of the output converted signal decreases, and

wherein the performing of the visual processing adjusts the determined conversion characteristic, such that, according to the adjustment parameter, as a brightness of the ambient light increases, at least one of a brightness and a local contrast of the output converted signal increases.